

## Appendix D Glossary

TERM	DEFINITION	TRANSLATION
1 Gigahertz (GHz)	1,000,000,000 cycles per second	
1 hertz (Hz)	1 cycle per second	
1 Kilohertz (kHz)	1,000 cycles per second	
1 Megahertz (MHz)	1,000,000 cycles per second	
AC	Alternating Current	
AES/EBU	An audio interface specification for digital pulse-code-modulated signals that permits direct connection to audio equipment that support the AES/EBU interface	
AFC	Automatic Frequency Control	
AGC	Automatic Gain Control	
Ampere (amp)	The unit of measure of current flow. One ampere equals 1 coulomb of electrons passing a given point in 1 second.	
Amplifier	An electronic device that increases the strength of an electrical impulse with respect to the impulse's frequency.	
Analog Signal	A signal transmitted on a continuously varying electromagnetic wave	
Antenna	A solid or wire-mesh parabolic surface that reflects radio-frequency electromagnetic signals to a small point, called the focal point	
Antenna Beamwidth	An angular width where the antenna sensitivity for receiving or transmitting signals falls to one-half its center sensitivity	
Antenna G/T	A ratio of antenna gain to antenna noise temperature, pronounced "G over T". Measured as decibels/degree Kelvin (dB/K)	
Antenna Gain	An antenna's ability to amplify an incoming signal. It is measured in units of decibels (dB)	
Antenna Mount	The main support for an antenna reflector. One of three types: fixed, polar, or Azimuth/Elevation (Az/EI)	
Aperture	The diameter of a parabolic antenna (dish) that intercepts the incoming satellite signal.	
ASCII	American Standard Code for Information Interchange	
Attenuation	A term used to measure the decrease in magnitude in transmission from one point to another. It may be expressed as a ratio or in decibels.	
Attenuator	An adjustable transducer for reducing the amplitude of a wave without introducing appreciable distortion.	
Band-Pass Filter	A filter allowing only frequencies within a certain range to continue, while blocking lower and higher range frequencies	

Bandwidth	The range of frequencies occupied by a signal or passed by a transmission channel (7.5 kHz or 15 kHz).	
Baseband Frequencies	The band of frequencies containing the information prior to modulation or subsequent to demodulation.	
Baud	The number of discrete signal-state changes (signal events) per second; often equivalent to bits per second	
Bit Error Checking (BEC)	A method for checking a binary data stream for bit errors, sometimes called Viterbi Forward Error Checking (FEC)	
Bit Error Rate (BER)	A measure of the accuracy of digital demodulation or decoding.	
Bit Rate	The speed of digital transmission measured in bits per second.	
Block Downconverter (BDC)	An electronic device that reduces a signal frequency to a lower frequency range, and then passes the signal into RG-11 coaxial cable running to the system receiver	
BNC	A cable connector type	
BPSK	Binary Phase-Shift Keying	
Broadcast	To distribute a program or signal to a ground-based audience.	
Carrier	The radio frequency wave that is modulated by the baseband information signal.	
Cassegrain Focus	A focal point reached after two reflections: the antenna surface, and a second surface	
C-Band	RF signal frequencies in the range, 3.7 – 4.2 GHz	
Closed-Circuit Television	Television limited to monitors connected by cabling	
CMR	Common-mode rejection	
Companing	A noise reduction technique involving compression applied at the transmitter, with complementary expansion at the receiver.	
Composite Baseband	The raw demodulator output, prior to filtering. Contains all transmitted subcarriers.	
Connector	A socket, jack, or port on a piece of equipment into which a cable or wire connects.	
Current	The flow or rate of flow of electrons in a conductor from a point of higher concentration to one of lower concentration. Usually measured and expressed in amperes.	
DC	Direct Current	
Decibel (dB)	A unit for measuring the volume of a sound.	
De-Emphasis Network	An electronic network that modifies the input spectrum of audio frequencies to provide a flat spectrum	
Demodulation	The recovery of baseband information from a modulated carrier.	
Deviation	The level of modulation of an FM signal.	

Digital Data	Data formed by rapidly sampling the voltage of an analog signal and converting the samples into binary numbers	
Digital Data Compression	A method for reducing digital signal information by eliminating redundant or unnecessary digital data	
DIP	Dual Inline Processing	
Downlink	A signal transmission from a satellite in geostationary orbit to a ground station	
DTR	Data Terminal Ready. One of the handshake requirements in a data transmission interface	
Edge of Coverage	The limit of a defined service area, typically 3 dB down from beam center, but it may be more. Reception is still possible beyond this line.	
Equatorial Orbit	A satellite orbit that travels over the equator of the Earth	
FDM	Frequency Division Multiplex. Single or multiple-channel per carrier operation	
FEC	Forward Error Correction	
Feedhorn	A device located at the focal point of the antenna that collects focused, concentrated signal and passes it through a waveguide to the first stage of electronic amplification	
Focal Point	A point near an antenna where signal reflections from the antenna surfaces meet	
Footprint	The coverage area of a satellite beam.	
Frequency	The number of complete oscillations per second of an electromagnetic wave.	
Frequency Modulation (FM)	The baseband signal is caused to vary by the frequency of the carrier wave.	
Frequency Reuse	A technique that uses the same frequency with different signal polarizations to transmit different programs that do not interfere with one another	
Geo-Stationary Orbit	A satellite orbit that has the same period of revolution as the Earth's rotational period	
Global Beam	A satellite beam covering the entire visible Earth surface (42 percent of the globe) as seen from the satellite.	
Half-transponder	A method of transmitting two TV signals through a single transponder. TV is normally carried on a full transponder.	
Hemispheric Beam	A shaped satellite beam covering approximately half of the visible Earth surface (21 percent of the total globe) as seen from the satellite. INTELSAT spacecraft carry east and west hemispheric beams.	
Hertz (Hz)	The unit of frequency, one cycle per second.	

High-Pass Filter	A filter allowing high frequencies to continue, while blocking low frequencies	
IDU	Indoor Unit	
IF	Intermediate Frequency. A commercial, industrial-standard frequency, 70 MHz	
Impedance	An Electrical property which is equal to the ratio of voltage to current flow	
Inclined Orbit	A satellite orbit that travels to the north and south of the Earth's equator	
Isotropic Source	A theoretical antenna model that receives signals equally well from all directions at once	
K-Band	The frequency spectrum from 10.9 to 36 GHz.	
Kelvin Scale	A scale of temperature measured in degrees centigrade from absolute zero, -273.18°C.	
Knob	A round handle that can be turned.	
Ku-Band	RF signal frequencies in the range, 10.95 - 12.75 GHz	
L-Band	RF signal frequencies in the range, 950 to 1700 MHz	
LED	Light Emitting Diode	
Left Hand Circular Polarization (LHCP)	A transmitted electromagnetic signal rotating in a clockwise direction.	
Line Amplifier	A device used to amplify an incoming signal before reaching the system receiver	
Local Oscillator (LO)	A stable signal source used in the Block Downconverter to reduce the incoming signal frequency to a lower range	
Low-Noise Amplifier (LNA)	An electronic device that amplifies an incoming signal, and then passes it into RG-11 coaxial cable running to the Block Downconverter (BDC)	
Low-Noise Block Downconverter (LNB)	An electronic device that combines the functions of the LNA and BDC into one unit	
Low-Pass Filter	A filter allowing low frequencies to continue, while blocking high frequencies	
Megahertz (MHz)	1 million hertz.	
Microwave	A short electromagnetic wave between 1 mm and 1M in length.	
Modulation	The impression of information upon an RF carrier wave by varying some parameter of that wave.	
MPEG	Moving Picture Experts Group	
MUSICAM	An MPEG Layer 2 audio decompressor	
Noise Source	Any signal that interferes with the desired signal	

Nonvolatile Computer Memory	Computer memory that retains its stored data when the computer is turned off	
NTSC	National Television Standards Committee	
ODU	Outdoor Unit	
Ohm ( $\Omega$ )	The unit of electrical resistance present in a circuit.	
Outlet	A wall-based 110V or 220V AC electrical source or a terminal strip 110V AC source.	
PAL	Phase Alteration by Line. A German video transmission standard	
PCM	Pulse Code Modulated	
Pick-up Probe	An electronic sensing device that converts RF electromagnetic signal into a varying electric current at the input to the Low-Noise Block Downconverter (LNB)	
PLL	Phase-Locked Loop	
Polarity Controller	A disc (usually teflon) that directs a circularly polarized signal down the passage of a feedhorn to the pick-up probe	
Polarization	The angle at which an electromagnetic wave signal is oscillating. Polarization is usually either linear or circular. If linear, the signal may be either horizontally or vertically polarized. If circular, the signal may be either left or right circularly polarized.	
Positioner	A device used to move the TVRO antenna from one visible, geostationary, equatorial-orbiting satellite to another. A positioner is used only with a polar mount antenna.	
Prime Focus	A focal point reached after one reflection from an antenna's surface	
QPSK	Quadrature Phase-Shift Keying	
Rain Outage	The loss of signal, especially within the Ku-Band, due to absorption and thermal noise accompanying heavy rainfall.	
Repeater	The equipment forming a single repeater channel on board a satellite. (Same as a transponder).	
RF	Radio frequency	
Right hand Circular Polarized (RHCP)	A transmitted electromagnetic signal rotating in a counterclockwise direction.	
SCART Cable	An electrical cable connecting a positioner/tracker to a system receiver, enabling automatic transfer of satellite tracking data from the receiver to the positioner/tracker	
SECAM	Séquence Couleur à Mémoire, Color Sequence with Memory. A French video transmission standard	
Sidelobes	Angular regions of increased antenna sensitivity outside the center beamwidth	
Signal Splitter	A device used to divide a broadband signal into different frequency ranges for different receivers	

Signal/Noise Ratio	The ratio, usually expressed in decibels, of the strength of a desired signal to that of the extraneous noise that is present.	
Solar Outage	The loss of signal caused by the sun passing through the receiving antenna's beam.	
Sparkles	A popular term for video noise seen as very small flashes of light on a monitor or television screen.	
Spot Beam	A beam of circular or elliptical cross-section, covering a defined region of the Earth's surface, small in relation to a global beam.	
Subcarrier	An information carrying wave, which in turn modulates the main carrier in a communications system. Subcarriers are used for independent audio and data transmission.	
Switch	A lever or button that can be moved from one position to another.	
TDM	Time Division Multiplexing. Single or multiple-channel per carrier operation	
Terminal	A socket jack or port on a piece of equipment into which a cable connects.	
Tracker	A device used to keep the system antenna pointed at a geostationary satellite that has assumed an inclined orbit. It is used only with an azimuth/elevation (Az/El) mount antenna.	
Transducer	A device by means of which energy can flow from one or more transmission systems or media to one or more other transmission systems or media. The energy transmitted by these systems or media may be of any form (electric, mechanical, or acoustical), and it may be of the same form or different forms in various input and output systems or media.	
Transmit	To send out radio or television signals by electromagnetic waves	
Transponder	The same as a repeater. The equipment forming a single repeater channel on board a satellite.	
TTL	Transistor-Transistor Logic – Logic circuits consisting of two or more directly interconnected transistors intended to drive capacitive loads at high rates.	
TVRO	Television Receive Only	
Uninterruptable Power Supply (UPS)	A backup source of electrical power that begins providing electrical power to a system whenever that system's primary source of electrical power is interrupted or halted.	
Uplink	A signal transmission from a ground station to a satellite in geostationary orbit	
VCR	Video Cassette Recorder	
Volt (v)	The unit of measure for potential difference.	
Volt-Ampere (VA)	Unit of apparent power equal to the product of voltage and current.	

Waveguide	A carefully machined metal passageway, through which the RF signal from the feedhorn passes to the first stage of electronic amplification	
Waveguide Flange	The projecting collar on the rear end of a feedhorn. It bolts directly to the projecting collar on the front end of the low noise amplifier.	
Wavelength	The distance between corresponding points on two successive waves.	
Zone Beam	A beam pattern, usually a shaped beam, intermediate between hemispheric and spot.	